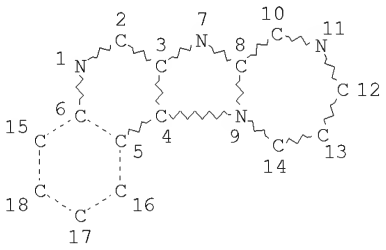
```
=> b reg
FILE 'REGISTRY' ENTERED AT 14:16:35 ON 31 MAR 2009
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2009 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:   29 MAR 2009  HIGHEST RN 1129300-01-1
DICTIONARY FILE UPDATES:  29 MAR 2009  HIGHEST RN 1129300-01-1

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 9, 2009.

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> d que sta l7
L5              STR
```




```
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  18

STEREO ATTRIBUTES: NONE
L7          676 SEA FILE=REGISTRY SSS FUL L5

100.0% PROCESSED    6640 ITERATIONS                          676 ANSWERS
SEARCH TIME: 00.00.01


=> b hcap
FILE 'HCAPLUS' ENTERED AT 14:16:41 ON 31 MAR 2009
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)


Copyright of the articles to which records in this database refer is
held by the publishers listed in the PUBLISHER (PB) field (available
for records published or updated in Chemical Abstracts after December
26, 1996), unless otherwise indicated in the original publications.
The CA Lexicon is the copyrighted intellectual property of the
the American Chemical Society and is provided to assist you in searching
databases on STN.  Any dissemination, distribution, copying, or storing
of this information, without the prior written consent of CAS, is
strictly prohibited.
```

FILE COVERS 1907 - 31 Mar 2009 VOL 150 ISS 14
FILE LAST UPDATED: 30 Mar 2009 (20090330/ED)

HCAplus now includes complete International Patent Classification (IPC)
reclassification data for the third quarter of 2008.

CAS Information Use Policies apply and are available at:

http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> d bib abs fhitstr l11 tot

L11 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2005:638879 HCAPLUS
DN 143:153410
TI Preparation of piperazine, [1,4]diazepane, [1,4]diazocane, and [1,5]diazocane fused imidazo ring compounds as inducers of cytokine biosynthesis for treatment of viral and neoplastic diseases
IN Kshirsagar, Tushar A.; Griesgraber, George W.; Celebi, Abdulaziz A.; Heppner, Philip D.
PA 3M Innovative Properties Company, USA
SO PCT Int. Appl., 218 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO--2005066172	A1	20050721	2004WO-US0043474	20041222
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU--2004312510	A1	20050721	2004AU-000312510	20041222
	CA-----2552101	A1	20050721	2004CA-002552101	20041222
	EP-----1699792	A1	20060913	2004EP-000815538	20041222
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU				
	CN-----1922178	A	20070228	2004CN-080042200	20041222
	JP--2007530450	T	20071101	2006JP-000547424	20041222
	IN---200602371	A	20070706	2006IN-000002371	20060628
	US-20070167476	A1	20070719	2007US-000596895	20070116
PRAI	2003US-00533024P	P	20031229		
	2004WO-US0043474	W	20041222		

OS CASREACT 143:153410; MARPAT 143:153410
GI

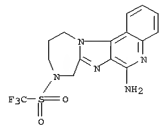
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Title compds. I [RA, RB = independently H, halo, alk(en)yl, alkoxy, alkylthio, NH2 and derivs.; or RACCRB = (un)substituted fused hetero/aryl, fused 5- to 7-membered saturated ring; X = a bond, alkylene; Z = (un)substituted alkylene; with the proviso that the total number of C atoms contributed by X and Z = 1-3; Y = a bond, SO2, SO2-NH and derivs., CO, etc.; R = halo, OH, alk(en)yl, haloalkyl, alkoxy, alkylthio, NH2 and derivs.; R1 = H, (un)substituted alk(en/yn)yl, hetero/aryl, etc. with proviso; and their pharmaceutically acceptable salts], were prepared as immunomodulators for inducing cytokine biosynthesis in animals and in the treatment of diseases including viral and neoplastic diseases. For example, II was prepared via cyclocondensation of 1,2-diamine derivative III with chloroacetyl chloride, cyclization of imidazoquinoline, BOC-deprotection, chlorosulfonation of amine (not isolated) with MeSO2Cl, oxidation/amination with NH4OH, and TBDMS-deprotection. Certain I modulated cytokine biosynthesis by inhibiting production of interferon α and/or tumor necrosis factor TNF-α when tested in an in vitro blood cell system.

IT **1044675-88-8**
RL: PRPH (Prophetic)
(Preparation of piperazine, [1,4]diazepane, [1,4]diazocane, and [1,5]diazocane fused imidazo ring compounds as inducers of cytokine biosynthesis for treatment of viral and neoplastic diseases)

RN 1044675-88-8 HCAPLUS

CN INDEX NAME NOT YET ASSIGNED



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitrn fhitstr l11 tot

L11 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2005:638879 HCAPLUS
DN 143:153410
TI Preparation of piperazine, [1,4]diazepane, [1,4]diazocane, and [1,5]diazocane fused imidazo ring compounds as inducers of cytokine biosynthesis for treatment of viral and neoplastic diseases
IN Kshirsagar, Tushar A.; Griesgraber, George W.; Celebi, Abdulaziz A.; Heppner, Philip D.
PA 3M Innovative Properties Company, USA
SO PCT Int. Appl., 218 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO--2005066172	A1	20050721	2004WO-US0043474	20041222
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU--2004312510	A1	20050721	2004AU-000312510	20041222
CA-----2552101	A1	20050721	2004CA-002552101	20041222
EP-----1699792	A1	20060913	2004EP-000815538	20041222
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU				
CN-----1922178	A	20070228	2004CN-080042200	20041222
JP---2007530450	T	20071101	2006JP-000547424	20041222
IN---200602371	A	20070706	2006IN-000002371	20060628
US-2007167476	A1	20070719	2007US-000596895	20070116
PRAI 2003US-00533024P	P	20031229		
2004WO-US0043474	W	20041222		

OS CASREACT 143:153410; MARPAT 143:153410
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Title compds. I [RA, RB = independently H, halo, alk(en)yl, alkoxy, alkylthio, NH2 and derivs.; or RACCRB = (un)substituted fused hetero/aryl, fused 5- to 7-membered saturated ring; X = a bond, alkylene; Z = (un)substituted alkylene; with the proviso that the total number of C atoms contributed by X and Z = 1-3; Y = a bond, SO2, SO2-NH and derivs., CO, etc.; R = halo, OH, alk(en)yl, haloalkyl, alkoxy, alkylthio, NH2 and derivs.; R1 = H, (un)substituted alk(en/yn)yl, hetero/aryl, etc. with proviso; and their pharmaceutically acceptable salts], were prepared as immunomodulators for inducing cytokine biosynthesis in animals and in the treatment of diseases including viral and neoplastic diseases. For example, II was prepared via cyclocondensation of 1,2-diamine derivative III with chloroacetyl chloride, cyclization of imidazoquinoline, BOC-deprotection, chlorosulfonation of amine (not isolated) with MeSO2Cl, oxidation/amination with NH4OH, and TBDMS-deprotection. Certain I modulated cytokine biosynthesis by inhibiting production of interferon α and/or tumor necrosis factor TNF-α when tested in an in vitro blood cell system.

IT **1044675-88-8 1044675-96-8 1044675-97-9 1044676-02-9**
RL: PRPH (Prophetic)
(Preparation of piperazine, [1,4]diazepane, [1,4]diazocane, and [1,5]diazocane fused imidazo ring compounds as inducers of cytokine biosynthesis for treatment of viral and neoplastic diseases)

L11 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2009 ACS on STN (Continued)
860164-39-2P 860164-41-6P 860164-43-8P
860164-45-0P 860164-47-2P 860164-49-4P
860164-51-8P 860164-53-0P 860164-55-2P
860164-57-4P 860164-59-6P 860164-61-0P
860164-63-2P 860164-65-4P 860164-67-6P
860164-69-8P 860164-71-2P 860164-73-4P
860164-75-6P 860164-77-8P 860164-79-0P
860164-81-4P 860164-83-6P 860164-85-8P
860164-87-0P 860164-89-2P 860164-91-6P
860164-93-8P 860164-95-0P 860164-97-2P
860164-99-4P 860165-01-1P 860165-03-3P
860165-05-5P 860165-07-7P 860165-09-9P
860165-11-3P 860165-13-5P 860165-15-7P
860165-16-8P 860165-18-0P 860165-20-4P
860165-22-6P 860165-24-8P 860165-26-0P
860165-28-2P 860165-30-6P 860165-32-8P
860165-34-0P 860165-36-2P 860165-38-4P
860165-40-8P 860165-42-0P 860165-44-2P
860165-46-4P 860165-48-6P 860165-50-0P
860165-52-2P 860165-54-4P 860165-56-6P
860165-58-8P 860165-60-2P 860165-62-4P
860165-64-6P 860165-66-8P 860165-68-0P
860165-70-4P 860165-72-6P 860165-74-8P
860165-76-0P 860165-78-2P 860165-80-6P
860165-82-8P 860165-84-0P 860165-86-2P
860165-88-4P 860165-90-8P 860165-92-0P
860165-94-2P 860165-96-4P 860165-98-6P
860166-00-2P 860166-02-5P 860166-04-7P
860166-06-9P 860166-08-1P 860166-10-5P
860166-12-7P 860166-14-9P 860166-16-1P
860166-18-3P 860166-20-7P 860166-22-9P
860166-24-1P 860166-26-3P 860166-28-5P
860166-30-9P 860166-32-1P 860166-34-3P
860166-36-5P 860166-38-7P 860166-40-1P
860166-42-3P 860166-44-5P 860166-46-7P
860166-48-9P 860166-50-3P 860166-52-5P
860166-54-7P 860166-56-9P 860166-58-1P
860166-60-5P 860166-62-7P 860166-64-9P
860166-66-1P 860166-68-3P 860166-70-7P
860166-72-9P 860166-74-1P 860166-76-3P
860166-78-5P 860166-80-9P 860166-82-1P
860166-84-3P 860166-86-5P 860166-88-7P
860166-90-1P 860166-92-3P 860166-94-5P
860166-96-7P 860166-98-9P 860167-00-6P
860167-02-8P 860167-04-0P 860167-06-2P
860167-08-4P 860167-10-8P 860167-12-0P
860167-14-2P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(drug candidate; prepn. of fused imidazo ring compds. as inducers of cytokine biosynthesis for treatment of viral and neoplastic disease)

IT **860167-16-4P 860167-18-6P 860167-20-0P**
860167-22-2P 860167-24-4P 860167-26-6P
860167-28-8P 860167-30-2P 860167-32-4P
860167-34-6P 860167-36-8P 860167-38-0P
860167-40-4P 860167-42-6P 860167-44-8P
860167-46-0P 860167-48-2P 860167-52-8P, 9-(Methylsulfonyl)-3-(pyridin-3-yl)-9,10,11,12-tetrahydro-8H-[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinolin-6-amine
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(drug candidate; preparation of fused imidazo ring compds. as inducers of cytokine biosynthesis for treatment of viral and neoplastic disease)

IT **860170-00-9P**, 6-Amino-9-(methylsulfonyl)-9,10,11,12-tetrahydro-8H-[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinolin-3-ol **860173-01-9P**, tert-Butyl 11-[(tert-butyldimethylsilyl)oxy]-11,12-dihydro-8H-[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinoline-9(10H)-carboxylate **860173-02-0P**, 11-[(tert-Butyldimethylsilyl)oxy]-9-(methylsulfonyl)-9,10,11,12-tetrahydro-8H-[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinoline **860173-11-1P**, tert-Butyl 11,12-dihydro-8H-[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinoline-9(10H)-carboxylate **860173-12-2P**, tert-Butyl 5-oxido-11,12-dihydro-8H-

L11 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2009 ACS on STN (Continued)
IT **860160-34-5P**, 11-[(tert-Butyldimethylsilyl)oxy]-9-(methylsulfonyl)-9,10,11,12-tetrahydro-8H-[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinolin-6-amine **860160-40-3P 860160-41-4P**, 9-(Methylsulfonyl)-9,10,11,12-tetrahydro-8H-[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinolin-6-amine **860167-51-7P**, 3-Bromo-9-(methylsulfonyl)-9,10,11,12-tetrahydro-8H-[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinolin-6-amine
860167-54-0P 860167-56-2P 860167-58-4P
860167-60-8P 860167-62-0P 860167-64-2P
860167-66-4P 860167-68-6P 860167-70-0P
860167-72-2P 860167-74-4P 860167-76-6P
860167-78-8P 860167-80-2P 860167-82-4P
860167-84-6P 860167-86-8P 860168-85-0P
860168-87-2P 860168-89-4P 860168-91-8P
860168-93-0P 860168-95-2P 860168-97-4P
860168-99-6P 860169-01-3P 860169-03-5P
860169-05-7P 860169-07-9P 860169-09-1P
860169-11-5P 860169-13-7P 860169-15-9P
860169-17-1P 860169-19-3P 860169-21-7P
860169-23-9P 860169-25-1P 860169-27-3P
860169-29-5P 860169-31-9P 860169-32-0P
860169-34-2P 860169-36-4P 860169-38-6P
860169-40-0P 860169-42-2P 860169-44-4P
860169-46-6P 860169-48-8P 860169-50-2P
860169-52-4P 860169-54-6P 860169-56-8P
860169-59-1P 860169-61-5P 860169-64-8P
860169-67-1P 860169-69-3P 860169-71-7P
860169-73-9P 860169-76-2P 860169-79-5P
860169-82-0P 860169-85-3P 860169-87-5P
860169-90-0P 860169-93-3P 860169-96-6P
860169-98-8P 860170-01-0P 860170-04-3P
860170-07-6P 860170-10-1P
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(drug candidate; preparation of fused imidazo ring compds. as inducers of cytokine biosynthesis for treatment of viral and neoplastic disease)

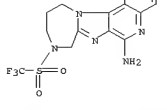
IT **860160-35-6P**, 6-Amino-9-(methylsulfonyl)-9,10,11,12-tetrahydro-8H-[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinolin-1-ol **860160-42-5P**
860162-53-4P 860162-55-6P 860162-57-8P
860162-59-0P 860162-61-4P 860162-63-6P
860162-65-8P 860162-67-0P 860162-69-2P
860162-71-6P 860162-73-8P 860162-75-0P
860162-77-2P 860162-79-4P 860162-81-8P
860162-83-0P 860162-85-2P 860162-87-4P
860162-89-6P 860162-91-0P 860162-93-2P
860162-95-4P 860162-97-6P 860162-99-8P
860163-01-5P 860163-03-7P 860163-05-9P
860163-07-1P 860163-09-3P 860163-11-7P
860163-13-9P 860163-15-1P 860163-17-3P
860163-19-5P 860163-21-9P 860163-23-1P
860163-25-3P 860163-27-5P 860163-29-7P
860163-31-1P 860163-33-3P 860163-35-5P
860163-37-7P 860163-39-9P 860163-41-3P
860163-43-5P 860163-45-7P 860163-47-9P
860163-49-1P 860163-51-5P 860163-53-7P
860163-55-9P 860163-57-1P 860163-59-3P
860163-61-7P 860163-63-9P 860163-65-1P
860163-67-3P 860163-69-5P 860163-71-9P
860163-73-1P 860163-75-3P 860163-77-5P
860163-79-7P 860163-81-1P 860163-83-3P
860163-85-5P 860163-87-7P 860163-89-9P
860163-91-3P 860163-93-5P 860163-95-7P
860163-97-9P 860163-99-1P 860164-01-8P
860164-03-0P 860164-05-2P 860164-07-4P
860164-09-6P 860164-11-0P 860164-13-2P
860164-15-4P 860164-17-6P 860164-19-8P
860164-21-2P 860164-23-4P 860164-25-6P
860164-27-8P 860164-29-0P 860164-31-4P
860164-33-6P 860164-35-8P 860164-37-0P

L11 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2009 ACS on STN (Continued)
[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinoline-9(10H)-carboxylate **860173-13-3P**, 9,10,11,12-Tetrahydro-8H-[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinolin-6-amine hydrochloride **860173-14-4P**, 9,10,11,12-Tetrahydro-8H-[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinoline hydrochloride **860173-15-5P**, 9-(Methylsulfonyl)-9,10,11,12-tetrahydro-8H-[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinoline **860173-16-6P**, tert-Butyl 9-amino-11-[(tert-butyldimethylsilyl)oxy]-11,12-dihydro-8H-[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinoline-9(10H)-carboxylate **860173-17-7P**, 11-[(tert-Butyldimethylsilyl)oxy]-9,10,11,12-tetrahydro-8H-[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinolin-6-amine hydrochloride **860173-23-5P**, 3-Bromo-9,10,11,12-tetrahydro-8H-[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinolin-6-amine **860173-30-4P**, tert-Butyl 3-benzyloxy-11,12-dihydro-8H-[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinoline-9(10H)-carboxylate **860173-31-5P**, 3-Benzyloxy-9,10,11,12-tetrahydro-8H-[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinoline **860173-32-6P**, 3-(Benzyloxy)-9-(methylsulfonyl)-9,10,11,12-tetrahydro-8H-[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinoline **860173-35-9P**, tert-Butyl 6-amino-3-benzyloxy-11,12-dihydro-8H-[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinoline-9(10H)-carboxylate **860173-36-0P**, 3-Benzyloxy-9,10,11,12-tetrahydro-8H-[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinolin-6-amine dihydrochloride
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; prepn. of fused imidazo ring compds. as inducers of cytokine biosynthesis for treatment of viral and neoplastic disease)

IT **1042593-39-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of fused imidazo ring compds. as inducers of cytokine biosynthesis for treatment of viral and neoplastic disease)

IT **1044675-88-8**
RL: PRPH (Prophetic)
(Preparation of piperazine, [1,4]diazepane, [1,4]diazocane, and [1,5]diazocane fused imidazo ring compounds as inducers of cytokine biosynthesis for treatment of viral and neoplastic diseases)

RN 1044675-88-8 HCAPLUS
CN INDEX NAME NOT YET ASSIGNED



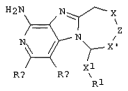
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr l12 tot

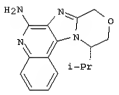
L12 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2006:677628 HCAPLUS
DN 145:145757
TI Preparation of chiral fused [1,2]imidazo[4,5-c] ring compounds as inducers of cytokine biosynthesis for treatment of viral and neoplastic diseases
IN Griesgraber, George W.; Kshirsagar, Tushar A.; Celebi, Abdulaziz A.; Johannessen, Sarah C.; Danielson, Michael E.; Rice, Michael J.; Wurst, Joshua R.
PA 3M Innovative Properties Company, USA
SO PCT Int. Appl., 257 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO--2006074003	A2	20060713	2005WO-US047258	20051229
WO--2006074003	A3	20071122		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA				
AU--2005322898	A1	20060713	2005AU-000322898	20051229
CA-----2592904	A1	20060713	2005CA-002592904	20051229
EP-----1831226	A2	20070912	2005EP-000855766	20051229
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, YU				
JP--2008526754	T	20080724	2007JP-000549590	20051229
US-20080269192	A1	20081030	2007US-000813039	20070628
PRAI 2004US-00640614P	P	20041230		
2005US-00697257P	P	20050707		
2005WO-US047258	W	20051229		

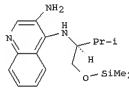
OS CASREACT 145:145757; MARPAT 145:145757
GI



I



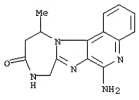
II



III

AB Title compds. I [X = a bond, straight or branched alkylene, optionally having a substituent at a C other than the C adjacent to a heteroatom; X' = straight or branched alkylene, optionally having a substituent at a C

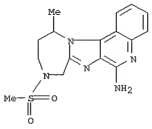
L12 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2009 ACS on STN (Continued)



L12 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2009 ACS on STN (Continued)
other than the C adjacent to a heteroatom; provided that the sum of the ring C atoms contributed by X and X' = 1-3; Z = O, NH and derivs., N-SO2-NH- and derivs., etc.; X1 = a bond, alk(en/yn)ylene; R1 = (un)substituted alk(en/yn)yl, hetero/aryl, etc.; RA, RB = independently H, halo, alk(en)yl, alkoxy, etc.; or when taken together RA and RB form a (un)substituted fused hetero/aryl ring, or a (un)substituted fused 5 to 7 membered satd. ring; and their pharmaceutically acceptable salts], were prepd. as immunomodulators for inducing cytokine biosynthesis in animals (no data) and in the treatment of diseases including viral and neoplastic diseases (no data). For example, II was prepd. via cyclocondensation of diamine III (prepn. given) with Et 2-chloroethanimidoate•HCl, followed by TBDMS-deprotection in the presence of tetrabutylammonium fluoride/cyclization in THF, oxidn., and amination with NH4OH. Certain I modulated cytokine biosynthesis by inhibiting prodn. of interferon α and/or tumor necrosis factor TNF-α when tested in an in vitro blood cell system (no data).
IT **898818-25-2P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(drug candidate; preparation of chiral fused [1,2]imidazo[4,5-c] ring compds. as inducers of cytokine biosynthesis for treatment of viral and neoplastic diseases)
RN 898818-25-2 HCAPLUS
CN Formic acid, compd. with 9,10,11,12-tetrahydro-12-methyl-9-(methylsulfonyl)-8H-[1,4]diazepino[1',2':1,2]imidazo[4,5-c]quinolin-6-amine (1:?) (CA INDEX NAME)

CM 1

CRN 898818-24-1
CMF C16 H19 N5 O2 S



CM 2

CRN 64-18-6
CMF C H2 O2

IT **898818-29-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; preparation of chiral fused [1,2]imidazo[4,5-c] ring compds. as inducers of cytokine biosynthesis for treatment of viral and neoplastic diseases)
RN 898818-29-6 HCAPLUS
CN 10H-[1,4]Diazepino[1',2':1,2]imidazo[4,5-c]quinolin-10-one, 6-amino-8,9,11,12-tetrahydro-12-methyl- (CA INDEX NAME)

```
=> b uspatall
FILE 'USPATFULL' ENTERED AT 14:17:19 ON 31 MAR 2009
CA INDEXING COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPATOLD' ENTERED AT 14:17:19 ON 31 MAR 2009
CA INDEXING COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 14:17:19 ON 31 MAR 2009
CA INDEXING COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

=> d bib abs hitrn fhitstr l13 tot
```

L13 ANSWER 1 OF 1 USPATFULL on STN
AN 2007:191295 USPATFULL
TI Piperazine, [1,4]Diazepane, [1,4]Diazocane, and [1,5]Diazocane fused imidazo ring compounds
IN Kshirsagar, Tushar A., Woodbury, MN, UNITED STATES
Griesgraber, George W., Eagan, MN, UNITED STATES
Celebi, Azim A., Clark, NJ, UNITED STATES
Heppner, Philip D., Forest Lake, MN, UNITED STATES
PI US-20070167476 A1 20070719
AI 2004US-000596895 A1 20041222 (10)
2004WO-US0043474 20041222
20070116 PCT 371 date
PRAI 2003US-000533024P 20031229 (60)
DT Utility
FS APPLICATION
LREP 3M INNOVATIVE PROPERTIES COMPANY, PO BOX 33427, ST. PAUL, MN, 55133-3427, US
CLMN Number of Claims: 37
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 5252
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Piperazine, [1,4]diazepane, [1,4]diazocane, and [1,5]diazocane fused imidazo ring compounds (i.e., imidazoquinolines, tetrahydroimidazoquinolines, imidazonaphthyridines, tetrahydroimidazonaphthyridines, and imidazopyridines), pharmaceutical compositions containing the compounds, intermediates, methods of making, and methods of use of these compounds as immunomodulators, for inducing or inhibiting cytokine biosynthesis in animals and in the treatment of diseases including viral and neoplastic diseases are disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d bib abs hitstr l14 tot

L14 ANSWER 1 OF 1 USPATFULL on STN
AN 2008:306705 USPATFULL
TI Chiral Fused [1,2]Imidazo[4,5-C] Ring Compounds
IN Griesgraber, George W., Eagan, MN, UNITED STATES
Kshirsagar, Tushar A., Woodbury, MN, UNITED STATES
Celebi, Azim A., Palo Alto, CA, UNITED STATES
Slania, Sarah J., Eagan, MN, UNITED STATES
Danielson, Michael E., St. Paul, MN, UNITED STATES
Rice, Michael J., Oakdale, MN, UNITED STATES
Wurst, Joshua R., North St. Paul, MN, UNITED STATES
PA Coley Pharmaceutical Group, Inc., Wellesley, MA, UNITED STATES (U.S. corporation)
PI US-20080269192 A1 20081030
AI 2005US-000813039 A1 20051229 (11)
2005WO-US0047258 20051229
20070628 PCT 371 date
PRAI 2004US-000640614P 20041230 (60)
2005US-000697257P 20050707 (60)
DT Utility
FS APPLICATION
LREP WOLF GREENFIELD & SACKS, P.C., 600 ATLANTIC AVENUE, BOSTON, MA, 02210-2206, US
CLMN Number of Claims: 37
ECL Exemplary Claim: 1-4
DRWN No Drawings
LN.CNT 7357
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Fused [1,2]imidazo[4,5-c] ring compounds (e.g., imidazo[4,5-c]quinolines, 6,7,8,9-tetrahydroimidazo[4,5-c]quinolines, imidazo[4,5-c]naphthyridines, and 6,7,8,9-tetrahydroimidazo[4,5-c]naphthyridines) with a --CH(--X.sub.1--R.sub.1)-group in the fused ring at the 1-position of the imidazo ring, pharmaceutical compositions containing the compounds, intermediates, methods of making the compounds, and methods of use of these compounds as immunomodulators, for inducing cytokine biosynthesis in animals and in the treatment of diseases including viral and neoplastic diseases, are disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

```
=> d his

     (FILE 'USPATFULL, USPATOLD, USPAT2' ENTERED AT 13:19:31 ON 31 MAR 2009)
                DEL HIS Y

     FILE 'HCAPLUS' ENTERED AT 14:07:55 ON 31 MAR 2009
L1             1 US20070167476/PN

     FILE 'REGISTRY' ENTERED AT 14:08:25 ON 31 MAR 2009

     FILE 'HCAPLUS' ENTERED AT 14:08:25 ON 31 MAR 2009
L2             TRA L1 1- RN :     1057 TERMS

     FILE 'REGISTRY' ENTERED AT 14:08:25 ON 31 MAR 2009
L3          1057 SEA L2
L4           352 L3 AND NCNC2-NC5-C6-NC2NC3/ES
L5               STR
L6            37 L5
L7           676 L5 FULL
                 SAV TEM J895C1G1/A L7
L8           676 L7 AND NCNC2-NC5-C6-NC2NC3/ES
L9           351 L8 AND L3
L10          325 L8 NOT L9

     FILE 'HCAPLUS' ENTERED AT 14:13:37 ON 31 MAR 2009

     FILE 'STNGUIDE' ENTERED AT 14:13:43 ON 31 MAR 2009

     FILE 'HCAPLUS' ENTERED AT 14:14:07 ON 31 MAR 2009
L11            1 L9
L12            1 L10

     FILE 'USPATFULL, USPATOLD, USPAT2' ENTERED AT 14:14:55 ON 31 MAR 2009
L13            1 L9
L14            1 L10

     FILE 'HCAPLUS' ENTERED AT 14:15:10 ON 31 MAR 2009

     FILE 'STNGUIDE' ENTERED AT 14:15:28 ON 31 MAR 2009

     FILE 'REGISTRY' ENTERED AT 14:16:35 ON 31 MAR 2009

     FILE 'HCAPLUS' ENTERED AT 14:16:41 ON 31 MAR 2009

     FILE 'USPATFULL, USPATOLD, USPAT2' ENTERED AT 14:17:19 ON 31 MAR 2009

=>
```